



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/679,661

10/07/2003

Heinrich Zitzmann

3193 DIV

4097

22474

7590

07/23/2004

DOUGHERTY, CLEMENTS & HOFER
1901 ROXBOROUGH ROAD
SUITE300
CHARLOTTE, NC 28211

EXAMINER

EASTHOM, KARL D

ART UNIT

PAPER NUMBER

2832

DATE MAILED: 07/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/679,661	ZITZMANN, HEINRICH	
	Examiner	Art Unit	
	Karl D Easthom	2832	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5 and 14-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5 and 14-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 098892987.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 2832

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 5 and 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Friese et al. '007 in view of Tani et al., Murata et al., or Gerblinger et al. Friese discloses the claimed invention at Figs. 1 or 2 except the platinum film resistor 6 being thin film and the glass. As an alternative, applicant argues that his claims are thin film pastes. This is met by the thick film paste of Friese, where thick or thin, in the context of applicant's arguments, are a matter of degree. Tani discloses a platinum film resistor 14 that can be produced by thin or thick film techniques for use as a temperature sensor (sputtering or screen printing - col. 3, lines 49-52) such that it would have been obvious to employ either type of platinum film where both are known in the temperature sensor resistor arts. Murata at col. 4, lines 1-12 also discloses that the platinum temperature sensing film may be thin or thick for use as a temperature sensor in a multilayered sensor such as that of Friese. One would be motivated to interchange the two depending on the equipment and materials available, or the response desired. In Friese, the glaze layer 4 is the connecting layer, described as a frame, such that it is in the border area as a sealing frame, creating a void where the platinum sensor is located. A glaze is "a smooth, thin, shiny coating" Webster's II, New Riverside University Dictionary. Also, the YSZ is a glass.¹ As an alternative, in Gerblinger et al., the glass layer US is used to connect a thin or thick film layer to a ceramic layer, see abstract, for the purpose of protecting the thin film platinum layer,

Art Unit: 2832

so that it would have been obvious to employ the glaze layer and thin film resistor in the Friese et al. device (thus meeting claim 17 also). The frame of Friese is depicted as a hermetically sealing frame surrounding the resistor 6 in Fig. 2, and described as a frame, see col. 3, lines 53-60, col. 5, lines 21-52. The ceramic cover and ceramic substrate are either 3, or films 1 and 11. The additional layers meet claim 16. See col. 5, line 50-51, col. 4, lines 8-14. In claim 14, the ceramic substrate 4 is alumina. In claim 15, the cover layer 4' at Fig. 2 is alumina. In claim 16, film 11 meets the claim as a cover layer and it is on the peripheral edges, as well as the remaining portions.

3. Claims 5 and 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Friese et al. '007 in view of Tani et al., as applied to claims above, and further in view of Wienand et al. The claimed invention is disclosed except the sealing glaze and sealing cover being of glass. For claim 5, assuming arguendo the word "glaze" is not met by the YSZ frame in Friese, Wienand discloses high melting glass solder at col. 4, lines 3-11 for attaching ceramic plates together such that it would have been obvious to employ the material for attachment as a replacement for the attachment means of Friese. Wienand also discloses an additional cover of glass 14 for added protection such that it would have been obvious to employ that (claims 16-17) for that reason in the device of Friese.

4. Claims 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Friese et al. '007 in view of Gerblinger et al., as applied to claims above, and further in view of Wienand et al. The claimed invention is disclosed except the sealing cover being of glass. Wienand also

¹ See par. 43 of Keegan et al., US 2003/0077496, where YSZ is called a glass.

Art Unit: 2832

disclose an additional cover of glass 14 for added protection such that it would have been obvious to employ that for that reason in the device of Friese.

5. Applicant's arguments filed 1/14/03 have been fully considered but they are persuasive only in part as to claims noted above. As to the lack of a void, this is not correct. The frame of Friese creates the void. That is, the platinum sensor is within a void, that is, there must be space for the sensor. Applicant argues it is not possible to sinter or fire a thin-film paste with a green sheet. This remark is simply not understood. There is no such "thin film" paste. A thin film is not a paste. A thick film is a paste. That is why it is a thick film. A thin film is metal product created by sputtering, vapor deposition, chemical deposition, PVD, or other well known thin film techniques. Applicant argues his ceramic plates have been fired first and then put together. This is not in the claims. There is no reason given why this structure forms a different claimed structure. Applicant argues that the ceramic films 1 and 11 of Friese are not connected directly together due to the presence of insulating films. Again, this argument is not related to the claims. However, insulating layer 3' can be omitted as noted at col. 5 of Friese and it appears that only FILM 1 and the border area 4 can be used. As to the glass, see the remarks regarding footnote 1. Applicant argues there is no motivation for a thin film because one would not interchange that with a thick film for various reasons. This argument is contradicted by the prior art of Murata, Tani, and Gerblinger et al., which discloses interchanging thin and thick films in devices very similar to that of Friese - multilayered platinum temperature sensors. One would be motivated to do so depending on the equipment and materials available, or the response desired. The argument of lack of motivation for a frame is not true. Friese discloses the frame.


6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl D Easthom whose telephone number is (571) 272-1989. The examiner can normally be reached on M-Th, 5:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad can be reached on (571) 272-1990. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Karl D Easthom
Primary Examiner
Art Unit 2832